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PLANT INDUSTRY

PLANT IMMIGRANTS.

No. 166. FEBRUARY, 1920.

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Foreign Seed and Plant Introduction.

EXPLANATORY NOTE.

This multigraphed circular is made up of descriptive notes furnished mainly by agricultural explorers and foreign correspondents relative to the more important introduced plants which have recently arrived at the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture, together with accounts of the behavior in America of previous introductions. Descriptions appearing here are revised and published later in the INVENTORY OF PLANTS IMPORTED.

Applications for material listed in these pages may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it as well as to others selected because of their special fitness to experiment with the particular plants imported. Do not wait for the annual catalogue entitled NEW PLANT INTRODUCTIONS which will be sent you in the autumn and in which will be listed all plants available at that time. Regular requests checked off on the check list sent out with the catalogue are not kept over from year to year. If you are especially interested in some particular plant in the catalogue write and explain in detail your fitness to handle it.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

David Fairchild,
Agricultural Explorer in Charge

Office of Foreign Seed and Plant Introduction,
Bureau of Plant Industry,
U. S. Department of Agriculture.

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Acrotriche depressa (Epacridaceae), 48800-01. From Blackwood, South Australia. Seeds presented by Mr. Edwin Ashby. "The best known variety of our 'native currant,' which is becoming very scarce since the breaking down of its habitat, the mallee or dense brushwood or thicket formed by the eucalypts. The leaf and fruit of this variety are smaller than those of the Barossa Range form. It grows in the dry country where the rainfall is often under 15 inches and the soil usually a red sand with superficial limestone rock (travertine). The better sort are found in the Barossa Ranges where they grow in decomposed quartzite, with a good deal of humus, on rocky hillsides often lightly shaded by gum trees; the rainfall here is at least 25 inches. The bushes are about 2 feet high. The fruit is very juicy, and is astringent until cooked. I have a dozen plants in my wild plant garden and in the cultivated part as well; the latter are doing best,- they are too young to fruit but will do so next year. The one bush which is in bearing carries several pints of fruit in masses low down on the main stems, so that they can be gathered in handfuls. The seed germinates very slowly, and will probably be more successful if treated with boiling water. I had one large bush which died in the drought of 1914; I burnt the dead bush, and young plants made their appearance only last spring; it is likely, therefore, that seeds will germinate after several years in the ground." (Ashby.)

Aristolochia fimbriata (Aristolochiaceae), 48657. From Montevideo, Uruguay. Seeds presented by Sr. Luis Guillot, Dirección General de Paseos Públicos. "Fringe-flowered Aristolochia." A native of Buenos Aires, with a weak, slender stem, not climbing; the leaves are cordate-reniform and very obtuse. The tube of the perianth is green, and yellow veined, much curved, like a hunting horn, swollen at the base, expanding above into a large, one-sided limb, greenish brown outside and deep purple-brown inside; the margin is beset with long, succulent, gland-tipped hairs. The very singular structure and color of the long-fringed flowers, render this species particularly worthy of cultivation in the greenhouse. In a favorable situation, it may be found able to endure the open air of our climate [England]. (Adapted from Curtis's Botanical Magazine, vol. 66, pl. 3756, as *A. ciliata*.)

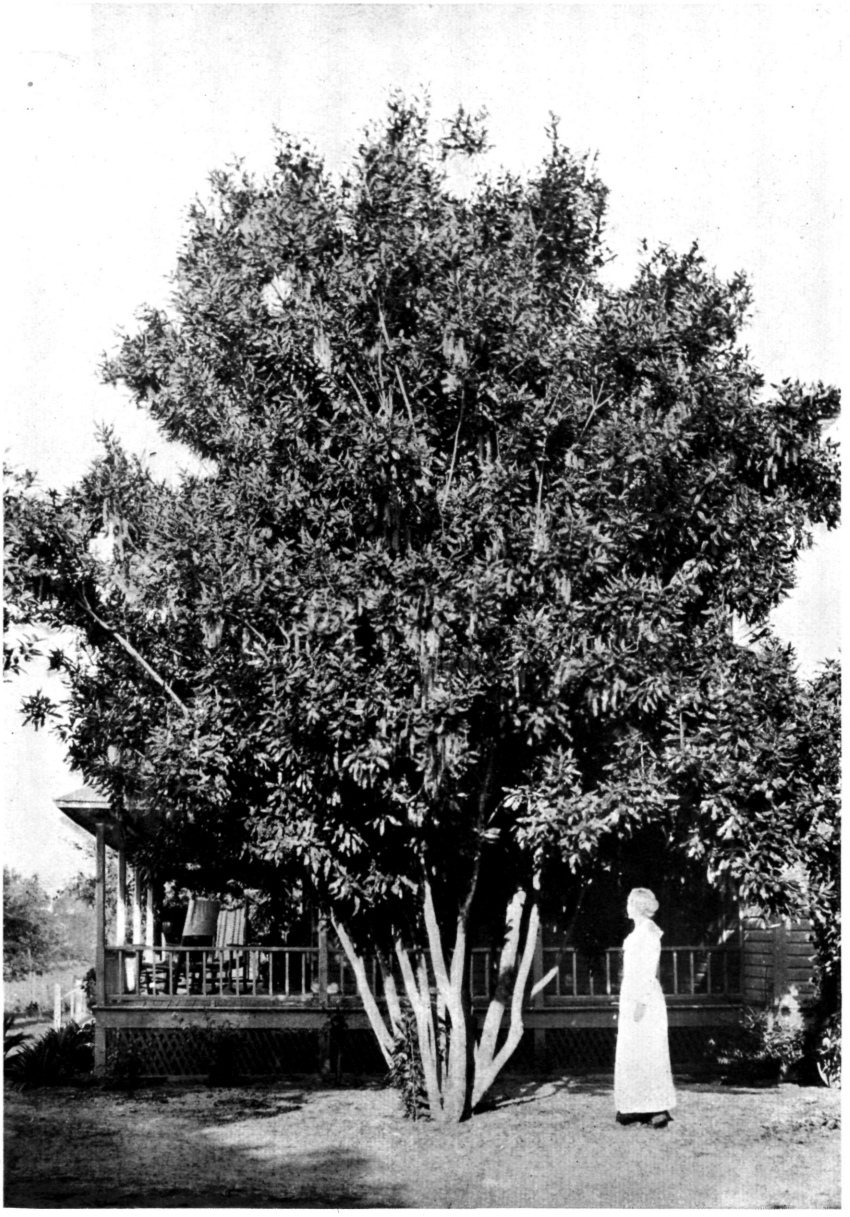
Celtis australis (Ulmaceae), 48662. From Montevideo, Uruguay. Seeds presented by Sr. Luis Guillot, Dirección General de Paseos Públicos. The nettle tree is one of the best trees for replanting forests because of its rapid growth, even in poor and rocky soils. The value of its products (wood, leaves, and fruits) soon compensates for the expense incurred in planting and cultivating it.

In the temperate zone, to which it is best suited, the nettle tree does well in any exposure and in any soil. Its different ways of propagation allow the grower to choose the method of planting which is best adapted to the local conditions and to the soil. The tree does well in soils where other trees grow only with difficulty, and helps to cover rocky and arid ground. When grown on the pollarding system or in groups of coppice shoots, it supplies material for the manufacture of agricultural implements. Each part of the tree is of value and supplies useful material: the wood, by reason of its hardness, fine grain, delicate color, elasticity, and resistance, is excellent for turning and cabinet-making; the leaves are valuable as fodder, especially in seasons and districts in which there is a shortage of green fodder; cattle and goats willingly eat the young leaves, which when fresh contain 6.30 per cent of nitrogenous substances, 0.13 per cent of fat, and 19.69 per cent of carbohydrates. Nearly every year the nettle tree gives an abundant crop of stone fruit very rich in sugar (39.40 per cent when fully ripe), which makes a very useful foodstuff for livestock, especially in districts where it is not possible to include sugar in the rations. The kernel contains 67.10 per cent of fat, that is to say, 7.02 per cent of that of the entire fruit. When ground, the stones yield about 10 per cent of fat, but if the kernels are separated from the woody part this may amount to 60 per cent. In this case, cakes containing about 12 per cent of protein, 12.4 per cent of fat, and 48.5 per cent of nitrogen-free extract, are obtained. The oil extracted may be used for various purposes. The nettle tree should be preferred to all other trees for replanting forests, and offers means of rapidly covering bare ground with plant growth. The speedy and large remuneration promised by its products may serve as an attraction to private landowners who wish to help in the regeneration of Italian forests. (Adapted from Degli Atti M., Anali della Regia Scuola Superiore di Agricoltura in Portici, 2d. series, vol. 8, p. 1.)

THE ILAMA OR PAPAUCE, A TROPICAL CHERIMOYA.

(*Annona diversifolia* Safford. See S. P. I. No. 46781.)

It has long been known that the delicious cherimoya does not succeed in the tropical lowlands. It belongs in the subtropics, or in the Tropics at high altitudes in mountain valleys and on plateaus. Even in Florida it is not altogether successful, the climate apparently being too tropical for it. The little-known ilama or papauce from southern Mexico and Central America has many of the characteristics of the cherimoya and, unlike the latter, is suited to cultivation in the tropical lowlands. It seems destined to take the place, in those regions, of the highland species whose lack has been keenly felt. (Photographed by Wilson Popenoe, Tapachula, State of Chiapas, Mexico, July 2, 1918; P17513FS.)



A MACADAMIA TREE IN CENTRAL FLORIDA.

(*Macadamia ternifolia* F. Muell. See S. P. I. No. 44769.)

This specimen of the Queensland nut or Macadamia, growing in the grounds of Mrs. Henry Stevenson, near Avon Park, in central Florida, is one of the finest in the United States. It produces its delicious nuts in abundance. This Australian tree merits more extensive cultivation in California and Florida. (Photographed by Wilson Popenoe, Avon Park, Fla., March 20, 1919; P17644FS.)

Citrullus vulgaris (Cucurbitaceae), 48761. **Watermelon.** From Johannesburg, Transvaal. Seeds secured by Dr. H. L. Shantz, agricultural explorer, from G. W. Laurence, of Prieska, who collected them at Gibeon, Protectorate of Southwest Africa. "M'Tsama melon which grows wild on the great Kalahari desert and constitutes the chief water supply to travelers and dwellers of the desert. This seed may contain both the bitter and the sweet variety. I am unable to determine whether it is annual or perennial. It is by far the most important plant of the Kalahari, if we except the forage grasses. It is valued here as a stock feed and as a food for the natives. It is cooked and water extracted. Buried in the soil it forms a reservoir of water and a storehouse of food for both man and beast. I see no reason why it should not thrive in a wild state in our warmer deserts, and it may survive on dry lands throughout the great plains and intermountain region.

"I have not seen it growing and have not seen the fruit except in pictures, but it is worth giving a thorough trial in the United States." (Shantz.)

Combretum salicifolium (Combretaceae), 48809. From Pretoria, Transvaal. Seeds collected by Dr. H. L. Shantz, agricultural explorer. "A valuable tree for desert river banks, such as those of the Southwest and the southern Great Plains; yields quantities of gum. It is a beautiful tree which grows along all water courses in this semidesert country, especially along the Vaal and Orange rivers. Excellent color and good shade." (Shantz.)

Cucumis sp. (Cucurbitaceae), 48834. From Natal, South Africa. Presented by Mr. W. W. Masterson, American consul, Durban. "Seed and dried rind of a cucumber that is of a very different variety from the ordinary kinds that are raised in gardens the world over. The fruits present the appearance of the ordinary cucumber in regard to size and shape except that they are possibly a little rounder and shorter; but the thing that particularly attracts the attention is the long prickles over the outside like those on the seed pod of a Jimson weed. The vegetable is so tender and so easily digested, that I have with some difficulty procured this ripened specimen for introduction into the United States. The taste is like that of the cucumber, but the flesh cuts so easily, and is so juicy and well-flavored that I feel that the cultivation of this variety is well worth while." (Masterson.)

Dolichos jacquinii (Fabaceae), 48668. **Purple Dolichos.** From Montevideo, Uruguay. Seeds presented by Sr. Luis Guillot, Dirección General de Paseos Públicos. A perennial herb from the West Indies. The pods of this plant are a common food throughout India, eaten as our kidney beans are. It is hardy enough to endure our ordinary winters in England when placed against the wall in a sheltered part of the garden; but it is usually kept in a greenhouse as a climber, and it continues during most of the summer to throw out an abundance of bright purple flowers. It is easily propagated from seed. Adapted from Curtis's Botanical Magazine, pl. 380.)

Eugenia australis (Myrtaceae), 48670. From Montevideo, Uruguay. Seeds presented by Sr. Luis Guillot, Dirección General de Paseos Públicos. A handsome evergreen East-Australian shrub with graceful, slightly winged branches, and smooth, shining, elliptic leaves. The dainty white flowers have persistent calyces with spreading red sepals, small petals and very many extremely long, large-anthered stamens. The leaves and flowers have a pleasantly acid, aromatic taste. The palatable fruit is utilized particularly for jam, but the seed must be removed from the pulp. (Adapted from Curtis's Botanical Magazine, pl. 2230; and Mueller, Select Extra-Tropical Plants, p. 212.)

Helianthemum chamaecistus (Cistaceae), 48675. From Montevideo, Uruguay. Seeds presented by Sr. Luis Guillot, Dirección General de Paseos Públicos. This beautiful evergreen shrub grows quickly into a shapely bush, bearing during the summer multitudes of large white flowers with crimson spots at the bases of the petals. The narrow, bright-green leaves are slightly viscous. It is drought-resistant, and if planted in a border extends itself two or three feet over the edge. The original species is a native of England; it is readily propagated by cuttings and will grow in any moderately light soil. Bees are exceedingly fond of the rock rose, as this genus is called, and during dry seasons, when many other flowers fail, it is much frequented by bees, which probably accounts for the many natural hybrids known to botanists. (Adapted from Flora and Sylva, vol. 2, p. 44; and Gardening Illustrated, vol. 22, p. 212.)

Mida acuminata (Santalaceae), 48837. **Quandong.** From Sydney, New South Wales. Seeds presented by the New South Wales Forestry Commission. The **quandong**, sometimes called native peach, attains a height of 30 feet, and is found in the hotter and drier parts of New South Wales. The lanceolate leaves are much relished by cattle, and because of the remarkable drought-enduring properties of this tree it is very valuable in times of scarcity of rain. The fruit is red, from 1½ to 3 inches in circumference, and of considerable economic value. The succulent outer part is edible and makes an excellent conserve and jelly. The edible kernels have a pleasant flavor and contain a large percentage of oil, which when burned gives a good light. (Adapted from the Pastoral Finance Association Magazine, Sydney, September 1, 1918.)

For previous introduction see S. P. I. No. 43423, Plant Immigrants, No. 126, October, 1916, p. 1064.

Mimusops zeyheri (Sapotaceae), 48777. From Johannesburg, Transvaal. Seeds collected by Dr. H. L. Shantz, agricultural explorer. "A yellow fruit about one inch long, with a dry, sweet flesh, similar to a jujube. This is apparently a very large-fruited species of the genus, of which the fruits are said to be delicious. I did not have an opportunity to test them for I could not find the tree from which the fruits came, and only those not thoroughly ripe had been cast aside by the children who were eating them. It may be well worth cultivating." (Shantz.)

Mouriria pusa (Melastomaceae), 48838. **Pusa.** From Minas Geraes, Brazil. Seeds presented by Dr. Alvaro da Silveira, Bello Horizonte. "The fruit is edible; the pulp is sweet, and the flavor most pleasing to the natives." (Silveira.)

A tree about 10 feet tall, with an upright stem, and horizontal branches. The obliquely globose fruit is as large as that of the common wild cherry. It is much esteemed and is called **Pusa** by the natives. (Adapted from Hooker's Journal of Botany, p. 23.)

Osyris abyssinica (Santalaceae), 48817. From Pretoria, Transvaal. Seeds collected by Dr. H. L. Shantz, agricultural explorer. "A most highly prized tannin plant imparting a very desirable color to leather; if it could be produced, it would be in great demand as

soon as its value became known to tanners. It would be especially valuable for fancy leathers." (Shantz.)

Quillaja braziliensis (Rosaceae), 48686. **Quillay** or **jabon de palo.** From Montevideo, Uruguay. Seeds presented by Sr. Luis Guillot, Dirección General de Paseos Públicos. A Brazilian tree, 6 to 8 meters high, with an erect trunk and an open crown. The alternate leaves are oblong-lanceolate and the white flowers are in distinct corymbs. The fruit is formed by five capsules in radiating arrangement, with numerous compressed and winged seeds. The regular shape and very leafy crown make it a striking ornamental, especially when it is in flower. The bark and wood cut into chips form articles of commerce, from which are extracted salt and mucilage constituents which are used in the saponification of greasy substances. (Adapted from Arechavaleta, Flora Uruguaya, vol. 1, p. 451.)

Rubus sp. (Rosaceae), 48751-52. **Blackberry.** From Bogota, Colombia. Seeds and plants purchased from Mr. F. L. Rockwood. "This berry is not in clusters like the common berry, but on the end of a branch like a rose. There are always several together; they bring the bush down with weight. Some of the berries are over two inches long when ripe. One berry, which measured two and one-half inches, dropped to pieces while we were bringing it out of the forest. These berries are developed where there is constant moisture, clouds against the mountains, and a temperature of 65°F. to 68°F. They grow in abundance near Purification, Tolima, where they are pressed for a juice which is claimed to have medicinal properties for curing blood diseases. The line of mountains from Cibate to Fusagusaga, about 9,000 feet elevation, is very prolific in blackberry plants; these do not grow above the coffee line." (Rockwood.)

Notes on Behavior of Previous Introductons.

A letter received January 14, 1920, from Mr. Herman Schrader, Berryville, Ark., contains the following: "I have been very successful with the plants received from your Office. The Chinese dwarf lemon, *Citrus limonia*, S. P. I. No. 23028, bore 6 large fruits; one of these made 2 pies. I keep the plants in my greenhouse in the winter and set the pots outdoors in the summer. Many people come to see these lemons."

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION
WASHINGTON, D. C.

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